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A REVIEW OF BRUCELLOSIS IN INDONESIA WITH
REPORT OF A RECENT CASE

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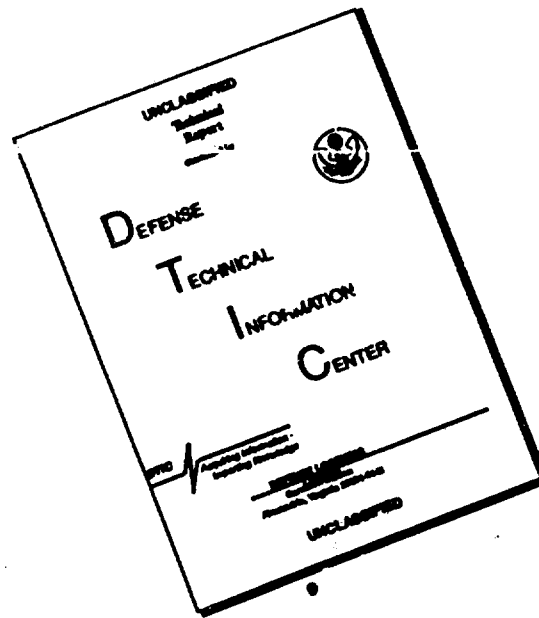
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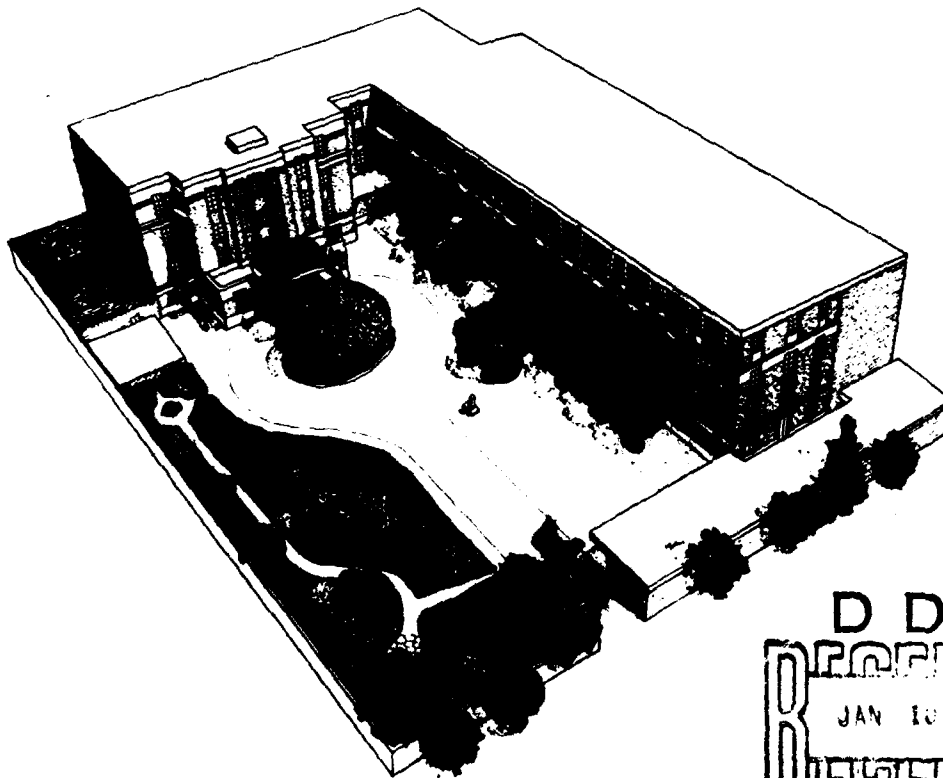
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13. ABSTRACT			
<p>TABLE 1 IS A SUMMARY OF FINDINGS IN 5 PREVIOUSLY REPORTED CASES OF BRUCELLOSIS FROM INDONESIA. ONLY ONE OF THE FIVE PATIENTS WAS A CHILD. RODENWALDT AND COHEN (1930) AND BOON VAN OSTADE (1938) CONCLUDED THAT INFECTION IN THEIR CASES OCCURRED VIA INGESTION OF RAW GOAT OR COW MILK. THE PRESENT PATIENT, ONLY ONE YEAR OLD, COULD NOT HAVE BEEN SO INFECTED SINCE THE MOTHER STATED SHE HAD ALWAYS FED HIM IMPORTED SPRAY-DRIED FULL CREAM MILK POWDER.</p>			

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III

A REVIEW OF BRUCELLOSIS IN INDONESIA WITH REPORT OF A RECENT CASE†

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INTRODUCTION

As early as 1915 Kirschner and Kunst demonstrated the existence of "infectious abortions" among cattle in Indonesia, predominantly in Bandung (West Java) and along the east coast of Sumatra. Kirschner in 1925 first isolated "Bang's bacillus" (*Brucella abortus*) in Indonesia from organs of the aborted foetus of a cow in Bandung. Kirschner also found a positive agglutination titer of 1:6400 in a patient convalescing from a febrile illness who had been in close contact with cattle. In addition, Kirschner found agglutination titers of 1:200 and 1:100 in 2 of 8 goats at the "Institut Pasteur" in Bandung in 1920 (Rodenwaldt and Cohen, 1930).

Rodenwaldt and Cohen (1930) subsequently diagnosed four clinical cases of brucellosis in Malang, East Java, in 1929, and Boon van Ostade (1938) found clinical brucellosis in an Ambonese soldier at Jogjakarta, Central Java, in 1932.

To our knowledge there has been no further mention of human brucellosis in Indonesia until the present.

† This study was supported through funds provided by the Bureau of Medicine and Surgery, Navy Department, for Work Unit P2048.

The research described in this report involved animals maintained in animal care facilities fully accredited by the American Association for Accreditation of Laboratory Animal Care.

The opinions and assertions contained herein are not to be construed as official or as representing the views of the Indonesian Ministry of Health or the U.S. Navy Department.

Epidemiology: Rodenwaldt and Cohen (1930) mentioned investigations performed by the government's veterinary service in Indonesia and concluded that brucellosis could be disregarded in cattle except on the east coast of Sumatra. However, they also suggested that the disease should not be overlooked in imported dairy cows and Kashmir goats. Boon van Ostade (1938) was also concerned about importation of the disease because of the high incidence of brucellosis in goats and cattle imported from India.

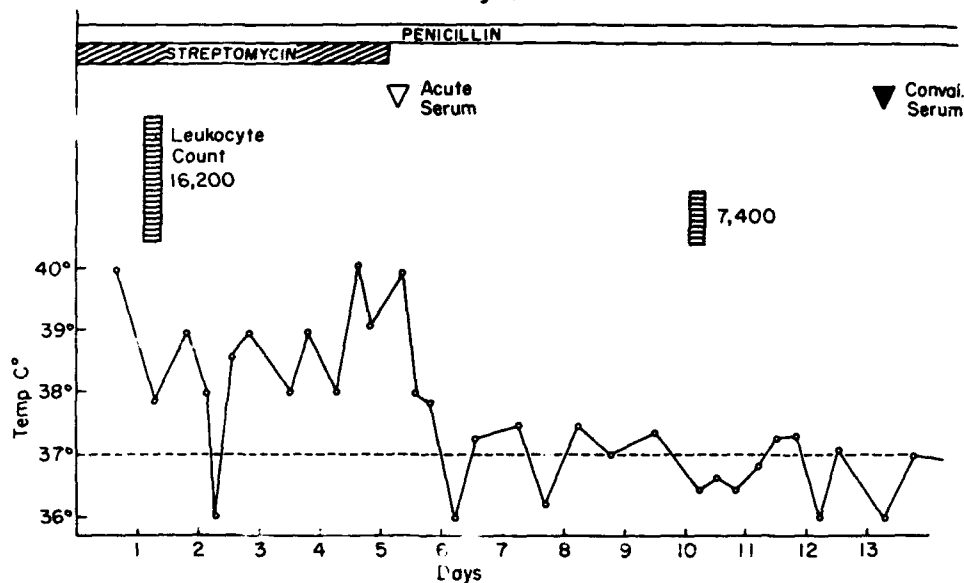
Case Report

A 15-month-old boy, son of a corporal in the Indonesian Navy, was admitted to Sumber Waras Hospital, Djakarta, on 29 May 1971, with a diagnosis of bronchopneumonia. The child had been feverish for 2 days with vomiting, and about 12 hours before admission respiration became labored.

Physical examination revealed an alert child, dyspnoeic with perioral cyanosis, and a temperature of 40°C. Wet rales were heard over both lungs and the abdomen was meteoric. There was bilateral acute otitis media.

Laboratory examinations: Blood haemoglobin 8.5%, leukocyte count 16,200, thrombocytes 225,000, differential count 0-0/6-54/38-2, and erythrocytes showed anisocytosis, poikilocytosis, and hypochromy; the ESR was 5mm/hour. Urine was normal. The stool showed many white blood cells,

Figure 1



some red blood cells, and mucus. A radiograph of the lungs revealed bronchitis.

Because of the above findings an antibiotic therapy consisting of penicillin 500,000 I.U. and streptomycin 300 mg daily was instituted for 9 days. Since the child refused to take meals properly a Darrow-glucose infusion was given during the first few days. During hospitalization the fever was intermittent varying between 36 and 40 C, reaching a peak at about midnight, falling during the morning, and rising again in the afternoon (Fig. 1). On the 7th day the temperature began to drop and remained normal until the time of discharge from the hospital on the 14th day.

The results of the serologic examination of 2 blood specimens collected 9 days apart were positive for agglutinating antibodies against *Brucella abortus*, 1:20 and 1:160 respectively

while the culture was negative. An investigation made at the patient's home revealed that about 2 weeks before the child fell ill one of his neighbours killed a sick goat. The mother of the patient, carrying the child in her arms, was at the scene.

DISCUSSION

The admission diagnosis was bronchopneumonia and otitis media; the possibility of brucellosis was not considered until positive serum antibody titers against *Brucella abortus* were obtained.

The absence of positive blood cultures was also noted with the 5 previously reported cases. A factor which may have contributed to the finding of negative blood cultures in this case was that at the time of blood sampling the patient had already received 200 mg streptomycin daily for 5 consecutive days.

Table 1
Summary of previously reported

Case No.	Race	Age	Sex	Prominent Signs and Symptoms suggesting Brucellosis
*1	Javanese (Malang)	30	M	High fever with irregular remittent bradycardia Prostration Profuse sweating Inflammation of joints Skin abscesses
*2	Chinese (Surabaya)	26	M	Undulating intermittent-remittent type fever Inflammation of joints Hypertranspiration provoked by low dosage of aspirin
*3	Javanese (Malang)	20	F	Undulating intermittent fever Hepatosplenomegaly
*4	European (Surabaya)	8	F	Undulating intermittent fever
**5	Ambonese soldier	22	M	Undulating remittent fever Hypertranspiration Slight enlargement of lymph glands
***6	Indonesian	15 months	M	Intermittent fever, Wet rales over both lungs Laborous respiration Vomiting

* Rodenwaldt and Cohen (1930).

** Van Ostade (1938).

*** Present case.

BRUCELLSIS (HUMAN) IN INDONESIA

cases in Indonesia.

Lab. Findings	Blood Cultures	Agglutination Titers	Remarks
Anaemia Leucopenia Relative lymphocytosis	Neg.	1:6400	
Anaemia Monocytosis Slight urobilinuria	Neg.	1:400 (after 1 month) 1:200	Positive skin test with Brucellin on discharge
Anaemia Leucopenia Monocytosis, slight Urobilinuria	Neg.	<i>B. melitensis</i> 1:400 <i>B. abortus</i> 1:1600 After 5 weeks <i>B. melitensis</i> 1:100 <i>B. abortus</i> negative	Positive skin test with Brucellin on discharge
Anaemia Slight relative lymphocytosis Urobilin, slightly positive	Neg.	<i>B. melitensis</i> 1:1600 <i>B. abortus</i> 1:400	Referred by family physician after clinical consultation in Malang about brucellosis
Anaemia Leucopenia	Neg.	<i>B. melitensis</i> 1:400 which increased every 2 weeks until it reached 1:800 (after 4 months) to drop again until 1:400 at the 5th month.	During convalescence : skin test with Brucellin**
Anaemia Leucopenia	Neg.	<i>B. abortus</i> 1:20 1:160	Bilateral otitis media complication.

SUMMARY

Table I is a summary of findings in 5 previously reported cases of brucellosis from Indonesia. Only one of the five patients was a child. Rodenwaldt and Cohen (1930) and Boon van Ostade (1938) concluded that infection in their cases occurred via ingestion of raw goat or cow milk. The present patient, only one year old, could not have been so infected since the mother stated she had always fed him imported spray-dried full cream milk powder.

The history of disease in nearby goats suggests the possibility of aerogenic infection in this case.

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